

1. (currently amended): An ethylene polymer composite having improved melt strength comprising:

(a) 76 to 99.25 weight percent, based on the weight of the total composition, of an ethylene homopolymer or ethylene-C₃₋₈ α-olefin copolymer base resin;

(b) 0.5 to 12 weight percent of an organically modified clay consisting of a smectite clay that has been ion-exchanged and intercalated with a dimethyl dihydrogenated tallow quaternary ammonium ion ~~of the formula:~~



where R represents a C₁₈ alkyl substituent or mixture of alkyl substituents wherein C₁₈ alkyl moieties constitute 50% or more of the mixture and R₁, R₂ and R₃ are independently selected from the group consisting of R, H and C₁₋₂₂ hydrocarbyl; and


(c) 0.25 to 12 weight percent of an ethylene polymer compatibilizing agent selected from the group consisting of ethylene-vinyl carboxylate copolymers and polymers of ethylene having from 0.1 to 8 weight percent ethylenically unsaturated carboxylic acid or derivative monomer copolymerized or grafted;
the weight ratio of (b) to (c) ranging from 1:5 to 1:0.1.

2. (Cancelled)

3. (currently amended): The composite of Claim 1 wherein the smectite clay is montmorillonite and R is comprised of at least 60% C₁₈ alkyl groups.

4. (currently amended): The composite of Claim 3 wherein the ~~organically modified clay is a~~ montmorillonite clay is modified with a— dimethyl dihydrogenated tallow ammonium chloride ion and the modifier concentration is 90 to 130 meq/100g.

5. (currently amended): The composite of Claim 1 wherein the compatibilizing agent is a copolymer of ethylene and 3 to 35 weight percent vinyl acetate having ~~and has~~ a melt index from about 0.25 to 40 g/10 min.

6. (Original): The composite of Claim 1 wherein the compatibilizing agent is an ethylene polymer grafted with 0.2 to 4 weight percent maleic anhydride having a melt index from about 0.25 to 40 g/10 min.
7. (Original): The composite of Claim 1 wherein the weight ratio of organically modified clay to compatibilizing agent is from 1:1 to 1:0.25.
8. (currently amended): The composite of Claim 2 3 having a melt index of 0.01 to 100 g/10 min and complex viscosity ratio at 0.1 radians/sec greater than 1.10 and comprising 84 to 98.75 weight percent base resin, 0.25 to 8 weight percent montmorillonite clay modified with dimethyl dihydrogenated tallow ammonium chloride and having a modifier concentration of 90 to 130 meq/100 g, and 0.25 to 8 weight percent of a copolymer of ethylene and 3 to 35 weight percent vinyl acetate having a melt index from 0.25 to 40 g/10 min; the weight ratio of modified montmorillonite clay to ethylene-vinyl acetate copolymer being from 1:1 to 1:0.25.
-  9. (currently amended): The composite of Claim 2 3 having a melt index of 0.01 to 100 g/10 min and complex viscosity ratio at 0.1 radians/sec greater than 1.10 and comprising 84 to 98.75 weight percent base resin, 0.25 to 8 weight percent montmorillonite clay modified with dimethyl dihydrogenated tallow ammonium chloride and having a modifier concentration of 90 to 130 meq/100 g and 0.25 to 8 weight percent of an ethylene polymer grafted with 0.2 to 4 weight percent maleic anhydride having a melt index from 0.25 to 40 g/10 min; the weight ratio of modified montmorillonite clay to grafted ethylene polymer being from 1:1 to 1:0.25.
10. (currently amended): An ethylene copolymer composite having improved melt strength comprising:
- (a) 88 to 99.5 weight percent, based on the weight of the total composite, of an ethylene-vinyl C₂₋₄ carboxylate copolymer base resin and
 - (b) 0.5 to 12 weight percent of an organically modified clay consisting of ~~an organically modified clay consisting of~~ a smectite clay that has been ion-exchanged and intercalated

with a dimethyl dihydrogenated tallow quaternary ammonium ion of the formula



~~where R represents a represents a C₁₈ alkyl substituent or mixture of alkyl substituents wherein C₁₈ alkyl moieties constitute 50 percent or more of the mixture and R₁, R₂ and R₃ are independently selected from the group consisting of R, H or a C₁₋₂₂ hydrocarbyl.~~

11. (currently amended): The composite of Claim 10 wherein the base resin is an ethylene-vinyl acetate copolymer having a vinyl acetate content of 2 to 48 weight percent, and the organically modified clay is a montmorillonite clay modified with dimethyl dihydrogenated tallow ammonium chloride and the modifier concentration is 90 to 130 meq/100 g.

12. (Original): The composite of Claim 11 wherein the ethylene-vinyl acetate copolymer has a vinyl acetate content of 4 to 45 weight percent.

13. (Original): The composite of Claim 12 having a melt index of 0.01 to 100 g/10 min and complex viscosity ratio greater than 1.10 and comprised of 92 to 99 weight percent ethylene-vinyl acetate copolymer and 1 to 8 weight percent organically modified clay.

als
cont
14. (currently amended): A concentrate useful for the preparation of ethylene polymer composites having improved melt strength comprising 20 to 70 weight percent, based on the total weight of the concentrate, of a carrier resin selected from the group consisting of ethylene homopolymer and copolymers of ethylene and a comonomer selected from the group consisting of C₃₋₈ α-olefins, vinyl C₂₋₄ carboxylates and C₁₋₄ alkyl acrylates and C₁₋₄ alkyl methacrylates and 30 to 80 weight percent additives comprising an organically modified clay consisting of a smectite clay that has been ion-exchanged and intercalated with a dimethyl dihydrogenated tallow quaternary ammonium ion of the formula



~~where R represents a represents a C₁₈ alkyl substituent or mixture of alkyl substituents wherein C₁₈ alkyl moieties constitute 50 percent or more of the mixture and R₁, R₂ and R₃ are independently selected from the group consisting of R, H or a C₁₋₂₂ hydrocarbyl and an ethylene polymer compatibilizing agent selected from the group consisting of ethylene-vinyl~~

carboxylate copolymers and polymers of ethylene having 0.1 to 8 weight percent ethylenically unsaturated carboxylic acid or derivative monomer copolymerized or grafted, the weight ratio of organically modified clay to compatibilizing agent ranging from 1:5 to 1:0.1.

15. (Original): The concentrate of Claim 14 wherein the organically modified clay is a montmorillonite clay modified with dimethyl dihydrogenated tallow ammonium chloride and the modifier concentration is 90 to 130 meq/100 g and the compatibilizing agent is a copolymer of ethylene and 3 to 35 weight percent vinyl acetate or an ethylene polymer grafted with 0.2 to 4 weight percent maleic anhydride.

16. (Original): The concentrate of Claim 15 containing 20 to 60 weight percent carrier resin, 40 to 80 percent of a combination of organically modified clay and compatibilizing agent present at a weight ratio of 1:1 to 1:0.25 and, optionally, up to 5 weight percent conventional compounding additives.

als
amt
17. (currently amended): A concentrate useful for the preparation of ethylene-vinyl acetate composites having improved melt strength comprising 20 to 70 weight percent of an ethylene-vinyl acetate copolymer carrier resin and 30 to 80 weight percent organically modified clay consisting of a smectite clay that has been ion-exchanged and intercalated with a dimethyl dihydrogenated tallow quaternary ammonium ion of the formula



~~where R represents a represents a C₁₈ alkyl substituent or mixture of alkyl substituents wherein C₁₈ alkyl moieties constitute 50 percent or more of the mixture and R₁, R₂ and R₃ are independently selected from the group consisting of R, H or a C₁₋₂₂ hydrocarbyl.~~

18. (Original): The concentrate of Claim 17 wherein the carrier resin is a copolymer of ethylene and 3 to 35 weight percent vinyl acetate and the organically modified clay is a montmorillonite clay modified with dimethyl dihydrogenated tallow ammonium chloride and the modifier concentration is 90 to 130 meq/100g.

19. (Original): The concentrate of Claim 18 containing 20 to 60 weight percent carrier resin and 40 to 80 weight percent organically modified clay.

20. (Original): The concentrate of Claim 19 optionally containing up to 5 weight percent conventional compounding additives.
